Thoughts for Glenn Springs on RD Schedule – 8/15/16

In water and on land portions of RD are somewhat separate and could proceed along parallel schedule paths, for most of the RD. Would need to come together at some point.

- For the in-water work, the critical path is the completion of the PDI Work Plan and specific sampling plans for selected activities such as:
    - Sediment sampling – because of the size and scope of the anticipated program, it is necessary for work to begin as soon as possible.
    - Bathymetric surveys – these surveys need to be correlated to the sampling programs to understand the conditions at the time sampling is performed.
    - Fish surveys - because of the time that may be needed (multiple sampling programs spread over a year) and the fact that some externalities, such as weather, could impact implementation so it is best not to wait until the last minute to get it done
    - Shoreline structures – condition and location of in-water structures are not documented to the level needed for RD and this information will impact dredging design.
    - Utilities may need to be mapped out as a first step of the PDI, to avoid problems during what is expected to be an extensive sediment coring program.
- For the upland work, the critical path is the site selection process. The location and physical setting of the sediment processing facility will control a number of decisions that will impact the design of both the in-water dredging system and the processing facility. The Site Selection and Evaluation Work Plan should be among the first documents submitted, since it will control that aspect of the work.

There is much more uncertainty in the in-water design, and much more reliance on PDI data. In contrast, similar types of upland sediment processing facilities have been designed before, and so are more of a known quantity. Therefore the sediment processing facility could be designed according to the 50%/90%/100% RD structure, while the in-water design should remain in the 30%/60%/95%/100% RD structure.

The PDI for in-water work will last for more than one sampling season. Therefore, it would make sense to have separate PDI WPs (with associated QAPP worksheets and FSP) and PDI Reports for each sampling season. This approach would provide more time to develop the work plans for the second season, and would allow for modifications based on using the results of the first sampling season to inform the work plans for the second season. In addition, the work plans and data evaluation reports would be more manageable in size and scope of content.

- The Site Wide Monitoring Plan does not have to be among the first documents to be submitted, if the 1st PDI sampling season focuses on in-water design critical path items.
- The Treatability Study Work Plan could wait until the first PDI sampling season is under

way, although it should not be delayed too long, in case there is a need for two treatability studies spanning two sampling seasons as well.

Since the PDI is on the critical path for in-water design, the PDI WP (for season 1) should be among the first documents to be submitted, possibly even before the RD WP.

Since the 30% RD is an outline of content and does not necessarily incorporate all of the PDI data, it can start toward the end of the first PDI sampling season (to benefit from some field knowledge) and be submitted before or during the start of the 2nd PDI sampling season.

The approval process at its simplest will likely involve EPA comments, Glenn Springs response to comments and EPA approval. This process will probably take two months if there are no major disagreements. Therefore, the following deliverables that require EPA approval will need two months built into the schedule to obtain such approval:

- PDI WP (and associated documents, such as QAPP and FSP)
- RD WP
- Site Selection and Evaluation WP
- Treatability Study WP

Some deliverables require EPA comment but not approval, so the review time built into the schedule after submittal could remain at one month:

- PDI Evaluation Report (particularly if split into a report for each sampling season)
- Site Wide Monitoring Plan
- Site Selection and Evaluation Report
- Treatability Study Evaluation Report
- Preliminary RD

The 60% and 95% RDs are submitted for EPA comment, but are anticipated to need substantial review and discussion between Glenn Springs and EPA, so the review time built into the schedule after submittal should be two months. However, work on the next phase need not wait until all EPA comments are received to continue.

As proposed in Glenn Springs' schedule (sent 7/29/16), the following deliverables could be submitted later in the schedule. But they should be submitted with the 95% RD, rather than the 100% RD as laid out in Glenn Springs' 7/29 schedule, to give EPA an opportunity to review.

- Construction QA/QC Plan
- Transportation and Off-Site Disposal Plan
- O&M Plan
- Institutional Controls Implementation and Assurance Plan.